NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division

April 26, 2017

Cockpit Voice Recorder

Specialist's Factual Report
By Bill Tuccio, Ph.D.

1. EVENT SUMMARY

Location:	Italy, Texas
Date:	July 6, 2016
Aircraft:	Bell 525, Registration N525TA
Operator:	Bell Helicopter
NTSB Number:	DCA16FA199

On July 6, 2016, about 1148 central daylight time, an experimental Bell 525 helicopter, N525TA, broke up inflight and impacted terrain near Italy, Texas. The two pilots onboard were fatally injured and the helicopter was destroyed. The flight originated from Arlington, Texas, as a developmental flight test and was conducted under the provisions of Title 14 *Code of Federal Regulations* (CFR) Part 91. Visual meteorological conditions prevailed at the time of the accident. A solid-state cockpit voice and flight data (CVFDR) was sent to the National Transportation Safety Board (NTSB) Vehicle Recorder Division for evaluation.

2. GROUP

A cockpit voice recorder (CVR) group was not convened.

3. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Division received the following CVFDR:

Recorder Manufacturer/Model:	**L3 SRVIVR**
Recorder Serial Number:	**009-01029**

3.1 CVR Carriage Requirements

The helicopter was operating on a developmental test flight with no passenger seats installed and was not required to have an operating CVR under 14 CFR Part 91.[1]

3.2 Recorder Description

This model CVFDR, the L3 SRVIVR, is a solid-state unit that records 120 minutes of digital audio stored on solid state memory modules. Four channels are recorded: one

[1] See also FAA Chief Counsel letter of interpretation to the Australian CAA by MacPherson, August 16, 2008.

channel for each flight crew, one channel for a cockpit observer, and one channel for the cockpit area microphone (CAM).

3.3 Recorder Damage

Upon arrival at the laboratory, it was evident that the exterior of the CVFDR had sustained significant structural damage, as shown in figure 1. The outer case was removed and the interior crash-protected case did not appear to have any heat or structural damage, as shown in figure 2. The memory board within the crash–protected case was checked for heat or structural damage and none was found, as shown in figure 3. The digital audio was successfully downloaded from the crash-survivable memory using hardware and software provided by the CVFDR manufacturer.

Figure 1. L3 CVFDR as received.

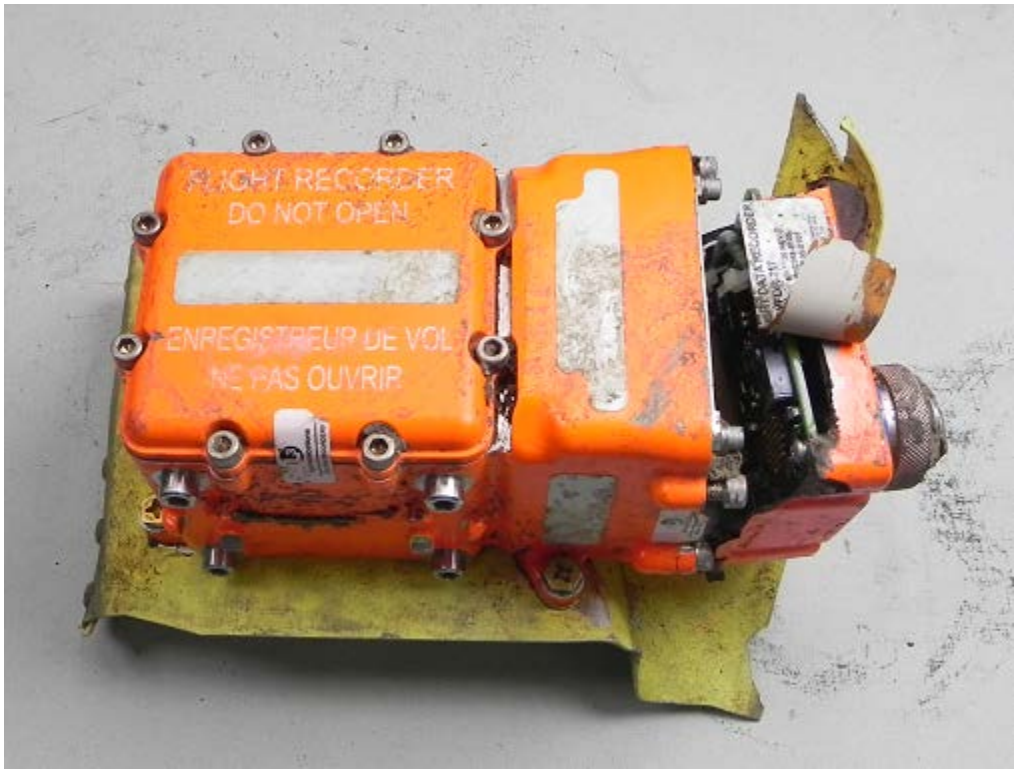
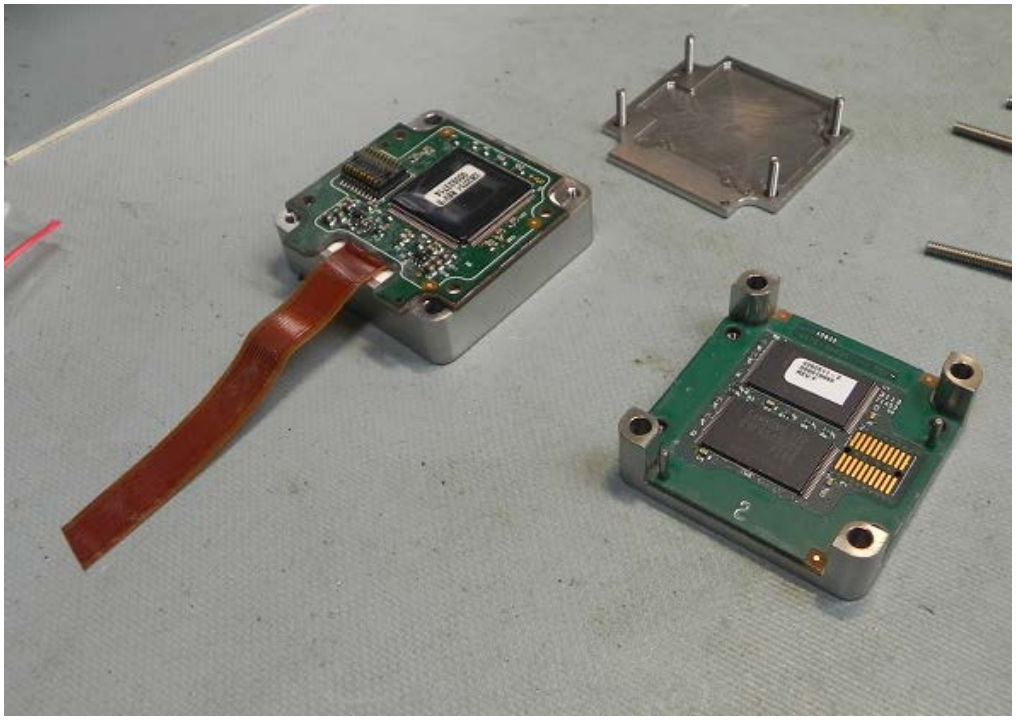


Figure 2. Crash survivable memory unit removed from unit.

Figure 3. Component and memory board inside crash survivable memory unit.



3.4 Audio Recording Description

The recording consisted of four channels of audio information; however, none of the audio was pertinent to the accident investigation. The audio was consistent with the CVR not being fully installed or configured in the helicopter.